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Abstract

This paper investigates whether the stock market reacts to unsolicited ratings for a sample of S&P rated firms from January 1996 to December 2005. We first analyze the stock market reaction associated with the assignment of an initial unsolicited rating. We find evidence that this reaction is negative and particularly accentuated for Japanese firms. A comparison between S&P's initial unsolicited ratings with previously published ratings of two Japanese rating agencies for a Japanese sub-sample shows that ratings assigned by S&P are systematically worse. Further, we find that the stock market does not react to the transition from an unsolicited to a solicited rating. Comparison of the upgrades in the sample with a matched-sample of upgrades of solicited ratings reveals that the price reactions are no different. In addition, abnormal returns are worse for firms whose rating remained unchanged after the solicitation compared to those for upgraded firms. Finally, we find that Japanese firms are less likely to receive an upgrade. Our findings suggest that unsolicited ratings are biased downwards, that the capital market therefore expects upgrades of formerly unsolicited ratings and punishes firms whose ratings remain unchanged. All these effects seem to be more pronounced for Japanese firms.

JEL Classification: G14, G23

1 Introduction

For considerable time now a controversial discussion has been going on involving rating agencies and their business practices. In the center of this discussion stands the more or less uncontrolled power of the rating agencies which are hardly regulated nor subject to any disclosure requirements regarding their rating practices. This has caused many market participants and observers to take a critical view of rating agencies and the opacity of the activities they unfold. The power of the rating agencies stems from the oligopolistic market structure of the rating market which is dominated by the so-called big three (Fitch Ratings, Moody's Investor Services and Standard & Poor's), and the strong influence rating agencies' judgments have on a company's cost of financing. In its March 26th 2005 issue, The Economist states that this oligopolistic market structure allows the agencies to extract very high profits which, in the case of Standard & Poor's (S&P), reached a stunning 41% of revenues in 2004.

One peculiarity associated with the rating agencies is the common practice to rate firms which have not requested a rating. While the agencies argue that these so-called unsolicited ratings are required to broaden their own understanding of the market and to serve investors' needs, the unsolicitedly rated firms are usually critical of such practices. It is argued that the agencies assign unsolicited ratings to force the firms to order a paid, i.e., solicited rating, which might be achieved by assigning an unsolicited rating that is worse than what the solicited rating ceteris paribus would be. This accusation is made particularly often in connection with Japanese companies. For instance, the Japan Center for International Finance (JCIF (1999)) accused US rating agencies of damaging the international standing of Japanese firms by issuing unsolicited ratings which are generally lower than the solicited ones of Japanese rating agencies.

Empirical evidence reveals that unsolicited ratings indeed seem to be lower than solicited ones, i.e., that they feature a downward bias. POON (2003) uses cross-sectional rating data from S&P for 265 firms in 15 countries from 1998 to 2000. She finds that unsolicited ratings tend to be lower. Although she observes that issuers who choose not to obtain rating services from S&P have weaker financial profiles, the difference in ratings can not be explained by this self-selection bias for a sub-sample of Japanese firms. Thus, it seems that (these) Japanese firms bear a downward bias. POON and FIRTH (2004) employ a cross-sectional analysis of 829 solicited and 122 unsolicited

Bank Individual Ratings from Fitch. They find that unsolicited ratings are lower on average even after controlling for differences in sovereign risk and key financial characteristics. VAN ROY (2005) compares the rating quality of Fitch-rated Asian banks and finds that unsolicited ratings tend to be lower even after accounting for differences in financial and non-financial characteristics. He concludes that unsolicited ratings are based on publicly available information only and are thus more conservative. In addition to this empirical evidence, there is also theoretical work that argues in favor of the existence of a downward bias in unsolicited ratings (BYOUN and SHIN (2002), BANNIER and TYRELL (2005)). The latter paper in particular argues that unsolicited ratings are strongly downward-biased for firms who believe they can disclose very optimistic private information to the rating agency as opposed to what the market expected. Furthermore, a solicited rating is likely to be requested by those firms who regard themselves undervalued by the market relative to their true creditworthiness. Thus, one should expect positive stock market reactions for firms who order a solicited rating and considerably more upgrades than unchanged ratings or downgrades at the transition from unsolicited to solicited.

None of the empirical work has so far analyzed the direct effect of the assignment of an initial unsolicited rating and the effect of soliciting a rating. Thus, the question of whether the rating agencies' practice of assigning unsolicited ratings has any measurable impact on the rated company's market value remains unanswered. Our paper addresses this issue by analyzing the stock market reaction to two different kinds of events. First, we look at the stock market reaction associated with the assignment of an initial unsolicited rating. As unsolicited ratings are based on public information only, we would not expect an abnormal stock market reaction associated with the rating announcement as long as the rating level is in line with stock market expectations. Second, we analyze the stock market's reaction to changes from unsolicited to solicited ratings, therewith capturing the direct effect of a rating solicitation. We argue that it should only be beneficial for firms to obtain a solicited rating if this positively impacts the value of their equity. If the stock market fails to react to either the announcement of a company's initial unsolicited rating or to the rating solicitation, why do many firms and, to some extent even the public view, condemn the practice of assigning unsolicited ratings? In this case, one might raise the question whether – as often argued by the rating agencies – unsolicited ratings really convey less information than solicited ones? Otherwise, it

would not be justified that firms complain about unsolicited ratings nor would they be willing to incur the high cost associated with ordering a solicited rating, thus making the activities of the agencies somewhat futile.

Using event study methodology this paper is the first to capture the direct effects of assigning an initial unsolicited rating and of soliciting a rating. Our findings shed more light on the business practices of rating agencies. They should be of equal interest to companies confronted with an unsolicited rating, investors, the rating agencies themselves and regulatory authorities.

We find a negative stock market reaction surrounding the announcement of the initial unsolicited rating. Obviously, the rating announcement is bad news for the stock market. This might be explained by the downward bias hypothesis. We further find evidence that this effect is more pronounced for Japanese firms. Furthermore, a comparison between S&P's initial unsolicited ratings with already published ratings of two Japanese rating agencies for a Japanese sub-sample reveals that ratings assigned by S&P are systematically worse. As we do not find any significant abnormal stock market reaction after a formerly unsolicitedly rated firm receives a rating upgrade in our second event study, it seems that the capital market already anticipates a rating upgrade at the transition from an unsolicited to a solicited rating. Moreover, we compare the stock market reactions of the upgraded firms with a matching-sample including only solicited rating changes. The comparison does not show any significantly different reactions between both samples. In addition, we find differences in the stock market reactions between the upgraded companies in our sample and the companies whose rating quality did not change after they solicited their rating. In this latter case the reason for obtaining a solicited rating seems even more obscure. Furthermore, we find that after controlling for operative performance, market valuation and the magnitude of the rating change, this sort of "odd" rating request is more likely for Japanese firms.

The paper is arranged as follows: Section 2 describes the dataset and conducts the event study for the sample of firms with an initial unsolicited rating. Section 3 includes the descriptive analysis of the sample of firms with a rating transition from unsolicited to solicited and the matching sample and conducts the event study and further analyses for these firms. Section 4 contains concluding remarks.

2 The stock market reaction to the assignment of an initial unsolicited rating

2.1 Description of the data set and descriptive analysis of the sample

Generally, all three major rating agencies provide information on whether a rating is solicited or not. In 1996, S&P started to mark unsolicited ratings with the acronym "pi" to indicate that the rating is based on publicly available information only. In 2000 Moody's started to declare in rating assignment press releases whether a rating is solicited or not (MOODY'S (1999)). Finally, Fitch began to disclose unsolicited ratings in rating action commentaries (FITCH (2005)) in 2001. The reason why we include only S&P rated firms is that the publicly available data sources (particularly our main rating data source Bloomberg) do not provide the necessary information for the other two rating agencies. Consequently, the sample only includes firms rated by S&P who received an initial unsolicited rating in the period January 1996 to December 2005. We considered senior unsecured ratings as well as financial strength ratings of insurance companies.[1] We detected 776 companies with an initial unsolicited rating. For 387 of those companies we were able to extract stock market data from Datastream. In order to exclude illiquid firms from the sample we applied a liquidity filter which required that there were not more than 10 zero returns in the event period of 15 days before and 30 days after the rating announcement. We also controlled for confounding rating events from S&P and Moody's in the event window. This was done to avoid overlapping events which could have an impact on the abnormal returns and therefore bias the results. The final sample consists of 231 firms. Only two of them received an initial unsolicited financial strength rating in the sample period. Table 1 includes the descriptive analysis of the sample.

Table 1: Descriptive analysis

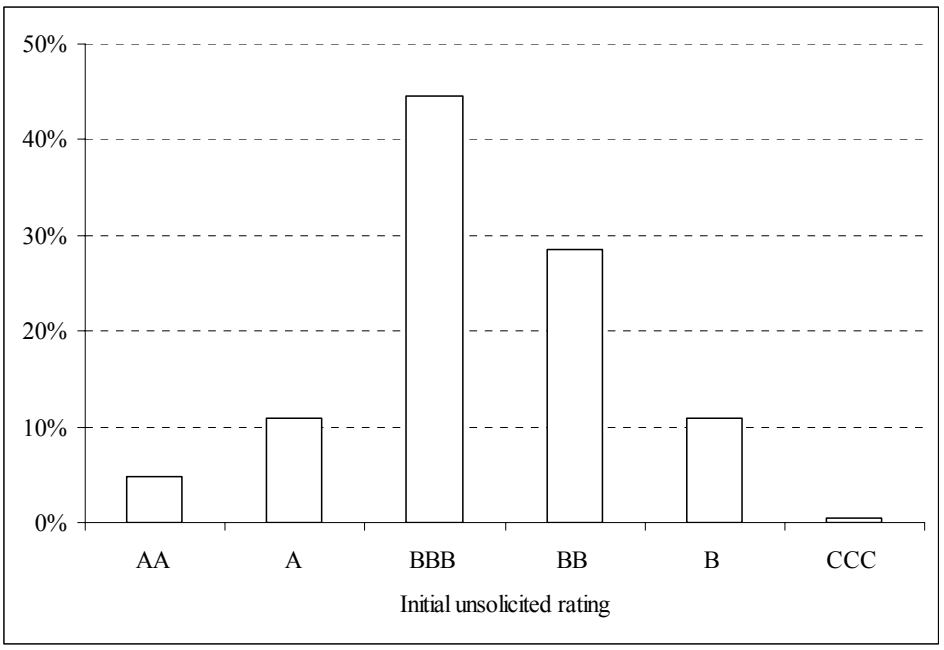
This table shows the descriptive analysis for 231 firms which were assigned an initial unsolicited rating from January 1996 to December 2005. The market value is shown in billion USD at the time of the rating change.

Market value	< .1	.1 to .5	.5 to 1	1 to 2.5	2.5 to 5	5 to 7.5	7.5 to 10	10 to 25	> 25
	2.16%	12.55%	16.88%	32.90%	16.02%	9.96%	6.06%	3.03%	0.43%
Country	Japan	Korea	Italy	South Africa	China	India	Hong Kong	Thailand	others
	69.26%	3.46%	2.60%	2.16%	2.16%	1.73%	1.73%	1.30%	15.58%
Year of rating change	1996	1997	1998	1999	2000	2001	2002	2003	2004
	1.31%	31.88%	20.52%	20.52%	17.03%	4.37%	0.44%	2.18%	2.62%
Business sector	Financials	Industrial	Basic materials	Retail services	Retail goods	Oil&Gas	Health	Utility	Technology
	43.29%	17.32%	12.12%	10.39%	10.39%	2.16%	2.16%	1.30%	0.87%

1 SHIN and MOORE (2003) deliver a justification for the inclusion of financial strength ratings.

The largest bulk of the companies which were assigned an initial unsolicited rating between January 1996 and December 2005 comes from Japan.[2] 1997 was the year in which S&P was most active in assigning firms an initial unsolicited rating. The main portion of the sample firms belongs to the financial sector. Figure 1 shows the distribution of the rating quality. Apparently, almost 40% of the initial unsolicited ratings are non-investment grade.

Figure 1: Distribution of rating quality for the sample firms

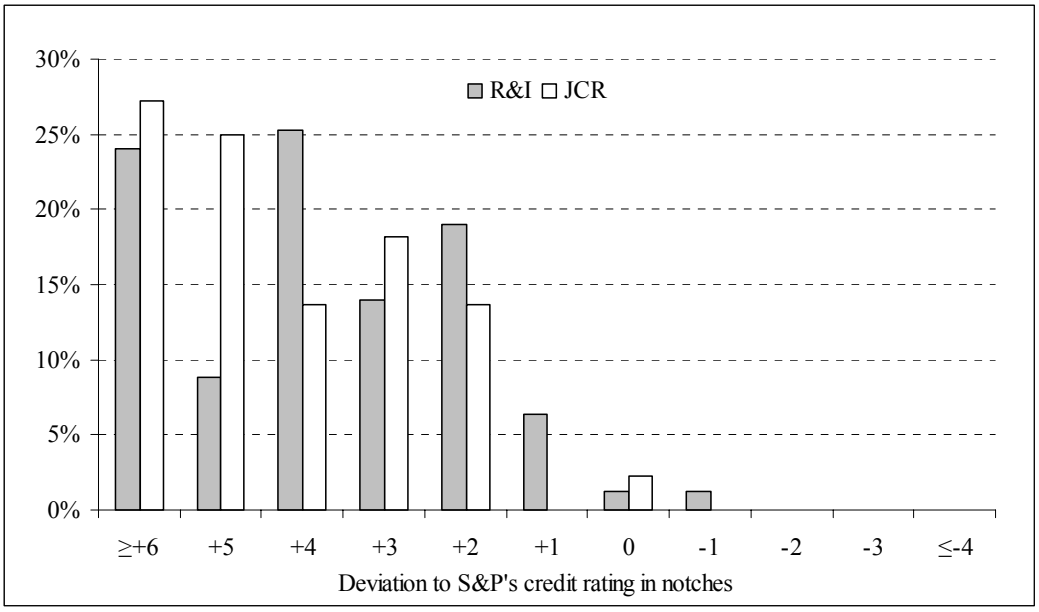


Picking up the criticism by Japanese companies and authorities regarding the rating practices of US rating agencies, we further analysed a sub-sample of Japanese companies with an initial unsolicited rating. We identified those Japanese companies who, at the time of the assignment of the unsolicited rating by S&P, were already rated by either R&I or JCR. We chose these two rating agencies because they were the only national designated rating agencies (DRA) in the observation period. In Japan, the DRA status is assigned by the Financial Services Agency. As the rating scale of these two rating agencies is identical to S&P's rating scale (SHIN and MOORE (2003)), a comparison of the rating levels might yield further insight about whether Japanese companies are treated

[2] S&P also assigned initial unsolicited ratings to US companies in the sample period. However, in Bloomberg the only US companies that are marked with pi are from the financial sector. As we did not find stock market data for any of those companies, we excluded them from the sample. The lack of stock market data for those companies can be explained by the fact that all the US companies with an initial pi rating were part of a larger holding or a conglomerate at the time of the rating assignment.

differently by US as opposed to Japanese rating agencies. In the case of R&I we detected 79 companies which were already rated by R&I when S&P assigned the initial unsolicited rating, in the case of JCR 44 companies. Though we cannot say whether the ratings by R&I and JCR were unsolicited or not, on an ex-ante basis one would expect normally distributed deviations between the ratings of S&P and the two Japanese rating agencies. The following picture emerged.

Figure 2: Distribution of rating deviations of S&P versus R&I and JCR



A positive deviation means that the unsolicited rating assigned by S&P is of a worse quality than the rating by the respective Japanese agency. In 97.47% of the cases S&P's rating was worse than that of R&I. The respective percentage for JCR is 97.73%. Even more astounding than these percentages is the large share of deviations between S&P's rating and those by the two Japanese rating agencies to the size of four of more notches. In the case of R&I this share is 58.23%, in the case of JCR 65.91%. These results add to the findings by SHIN and MOORE (2003) who also detected lower (solicited) ratings by US compared with Japanese agencies.

Though we cannot say why S&P's unsolicited rating signals on average a higher default risk than that of a Japanese rating agency, the comparison speaks a clear language. A trivial explanation for the difference could be that S&P simply uses a different rating approach when assigning an unsolicited rating. However, in this case severe concerns

about whether this approach is appropriate for the Japanese market seem justified.[3] Based on this finding and the prevailing critical voices regarding the Japanese case, in the analyses to follow we will also analyse the sub-sample(s) of Japanese companies where appropriate.

2.2 Results of the event study

The methodology applied in this study is common event study methodology as described in MACKINLAY et al. (1997). For all firms in the sample we collect the total stock returns and the respective total returns of the country indices as a proxy for the respective market portfolio from Datastream. The daily return of each security is the natural log of every security's total return at time t divided by the security's total return at time t-1. Each security's daily abnormal return is calculated by subtracting the daily country index log-return from the respective stock log-return. Only for one Estonian firm was no country index available. Here we used Datastream's European banking index. Table 2 contains the distribution of the price reactions for the sample firms.

Table 2: Price reaction distribution

This table shows the distribution of the price reactions for the sample of 231 firms, which were assigned an initial unsolicited rating from January 1996 to December 2005

	(-15, -1)	(0, +15)	(+16, +30)	(-15, +30)
Maximum	0.6184	0.5658	0.2889	0.6725
Median	0.0028	-0.0155	-0.0041	-0.0106
Minimum	-0.3513	-0.3291	-0.3039	-0.4511
Skewness	0.7035	1.4508	0.2866	0.5782
Kurtosis	10.0586	9.7539	4.0227	4.5366
Jarque-Bera p value	0.0000	0.0000	0.0013	0.0000

We next calculate the mean cumulated abnormal returns (CAR) for three sub-event windows and for the entire event period by adding up daily abnormal stock returns over the respective event window for each company individually and calculating the mean values for the sample. To assess whether the abnormal returns in the event windows are significantly different from zero we test the null hypothesis that the mean CAR equals zero by applying a standard t-test. We conduct the event study for the whole sample and

[3] Another interesting figure is the rating distribution for Japanese companies. While the sample including all companies featured approximately 40% of non-investment grade ratings, the respective number for Japanese companies is 41.77%. These two figures are not markedly different.

for two sub-samples including only Japanese firms and the rest. The results are summarized in Table 3.

Table 3: Stock market reactions to the assignment of an initial unsolicited rating

This table shows stock market reactions for the 231 firms which were assigned an initial unsolicited rating from January 1996 to December 2005. Two-sided significance levels for the t-test are given as ***, **, and * representing 1%, 5%, and 10% significance respectively.

	Whole sample (n = 231)		Japan (n = 160)		Ex-Japan (n = 71)	
Event window	Mean(CAR)	t-value	Mean(CAR)	t-value	Mean(CAR)	t-value
(-15, -1)	0.1355%	0.2055	-0.4185%	-0.5466	1.3838%	1.0894
(0, +15)	-1.3493%*	-1.8291	-2.0711%**	-2.3553	0.2772%	0.2064
(+16, +30)	0.2414%	0.3963	0.4318%	0.6249	-0.1879%	-0.1526
(-15, +30)	-0.9724%	-0.8351	-2.0577%	-1.4672	1.4732%	0.7103

We find a slight positive reaction for the whole sample in the event window (-15, -1). In the first sub-event window after the rating announcement (0, +15) we detect a negative stock market reaction, and in the second sub-event window after the announcement (+16, +30) we find a positive stock market reaction. However, only the negative stock market reaction of -1.35% in the event window (0, +15) is significant on the 10%-level. It seems that the assignment of the first unsolicited rating is bad news for the stock market. This result is surprising as unsolicited ratings are said to be based on publicly available information only. Assuming rational investors, one would not expect a negative reaction. Furthermore, taking into account the well-documented positive effect of being assigned a rating (such as access to debt markets or increased financial flexibility; both should already materialize with an unsolicited rating), the negative stock market reaction seems even more astounding. The analysis of the two sub-samples suggests that Japanese companies are treated differently by the stock market compared to companies from other countries. For the sub-sample of Japanese firms we find a negative stock market reaction of -2.07% which is significant on the 5%-significance level for the event window (0, +15). For the companies from other countries we do not find any significant stock market reaction.

We tested the robustness of these findings in a multivariate setting by running OLS-regressions with the CARs as dependent and a number of independent variables, including a dummy variable indicating whether the headquarter of the company is in Japan or not and some control variables. However, for none of the sub-event windows did the Japan dummy prove to be significant. Therefore, one must be careful not to

overestimate the results that emerged in the event study. At first sight, it appears that the assignment of the first initial unsolicited rating to Japanese companies strongly contradicts the expectations of the stock market and that S&P treats Japanese firms differently from firms from other countries. However, further analysis revealed that this effect vanishes in a multivariate context.

3 The stock market reaction to changes of unsolicited ratings

3.1 Description of the data set and descriptive analysis of the sample

In this section we analyze the stock market reaction at the transition from an unsolicited to a solicited rating. We identified a sample of S&P rated firms which experienced at least one rating change in the period January 1996 to December 2005. The initial sample contained 266 companies that underwent a rating change from unsolicited to solicited. For 91 of these companies we found stock market data in Datastream. Of these 80 companies only 62 fulfilled our liquidity criterion. After controlling for confounding events we obtained the final sample with 57 companies (see Section 2 for our liquidity and confounding events criteria). All of these firms had a senior credit rating.

Some of our conclusions in this section are based on the comparison of a sub-sample of upgrades with a matching-sample that serves as the benchmark. This procedure is often employed in event studies on rating changes (e.g. GRIFFIN and SANVICENTE (1982), CZARNITZKI and KRAFT (2004)). The matching sample is constructed by selecting a matching company for each company in the sub-sample. The main matching criterion was the magnitude of the rating change. For instance, we matched firms in the sub-sample that underwent a change from AA to AAA with firms that underwent a change in their solicited rating of the same magnitude. We applied the same liquidity filter to the matching sample firms. When there was more than one matching firm remaining, we minimized the product of the number of zero returns in the event window and the absolute distance (measured in days) between the rating change of the upgraded firm and the respective matching firms. For 20 of the upgrades we precisely matched the magnitude of the rating change. However, we also had to allow six exceptions where we had different rating changes of one notch. As the upgrades for these six firms in the sample were extraordinarily strong, we were unable to detect matching firms with upgrades of the same magnitude. For the downgrades and the unchanged ratings we did

not construct a matching sample. For the former because of the small number of only three, and for the latter because it is not possible to identify a corresponding rating event for firms with solicited ratings. The first part of the descriptive analysis of the sample is presented in Table 4. The largest bulk of the sample firms, totaling 73.68%, originates from Asia.[4] The predominant country of origin of the sample firms is Japan with a share of 57.89% of all firms. 73.68% of the sample firms are from the financial sector. Contrary to the sample, the matching sample consists mainly of industrial companies from the US. The rating agencies often claim that they use rating approaches which yield comparable ratings among sectors and countries. Thus, the regional and sectoral mismatch between the sample firms and the matching sample firms should not be an issue. Our sample is dominated by firms with market values of up to 10 billion USD, since mostly smaller firms receive an unsolicited rating. However, since we require liquid stock returns in our event period, we have only one really small firm in the sample with a market value of less than 100 million USD at the time of rating change.

Table 4: Descriptive analysis

This table shows the descriptive analysis for the 57 firms, which were assigned a solicited rating from January 1996 to December 2005 after having an unsolicited rating by S&P. The market value is shown in billion USD at the time of the rating change.

Panel I: Static view

Market value	< .1	.1 to .5	.5 to 1	1 to 2.5	2.5 to 5	5 to 7.5	7.5 to 10	10 to 25	> 25
	1.75%	15.79%	5.26%	24.56%	22.81%	7.02%	8.77%	10.53%	3.51%
Country	Japan	Italy	Korea	Taiwan	Germany	Greece	Singapore	Hong Kong	others
	57.89%	7.02%	5.26%	5.26%	3.51%	3.51%	3.51%	1.75%	12.28%
Year of rating change	1997	1998	1999	2000	2001	2002	2003	2004	2005
	3.51%	7.02%	12.28%	8.77%	8.77%	5.26%	1.75%	40.35%	12.28%

Panel II: Three-year average growth figures

	ROE	Total Sales	Dividend Yield	Market Value
90% Quantile	53.96%	16.11%	32.79%	42.13%
75% Quantile	19.74%	11.30%	13.89%	27.10%
Median	0.00%	3.14%	-0.22%	13.31%
25% Quantile	-14.67%	-2.36%	-6.06%	5.84%
10% Quantile	-27.59%	-5.22%	-14.54%	-5.56%

Besides the event-study we ran several regressions to further analyze the stock market reaction to the rating solicitation. Therefore, the second panel of Table 4 provides accounting and market data which we included as control variables in the regressions.

[4] Again we were not able to include firms from the US because for US companies S&P discloses whether a rating is a pi-rating or not only for financial service companies. However, stock market data was not available for any of the financial service companies with a pi-rating in our initial sample.

We utilized only overall and performance figures. This is justified by the fact that our sample contains financial institutions and industrial companies, for which other indicators of creditworthiness such as leverage are not appropriate. The data was extracted from Datastream. As S&P assigns through-the-cycle ratings[5], which are based on multi-year ratios of creditworthiness, we calculated three-year average growth ratios of return of equity (ROE), total sales, dividend yield and market value.[6] Total sales and market value are denominated in USD. For four companies with missing values for the ROE and total sales, we used the median. Negative ROE were set to zero. Yearly changes for the ROE and the dividend yield from zero (non-negative) to a non-negative figure (zero) are set to 100% (-100%). We assume that annual accounting information is known by market participants at the end of the first quarter.

We observe a decrease of the mean dividend yield for our 57 firms. Total sales, on the other hand, increase on average. Almost all companies in our sample exhibit increasing average market values. Additionally, of these 57 firms, 20 held a long-term rating by Moody's at the time of the rating change to a solicited rating.

Table 5 shows the rating transition of the sample firms. The sample is divided into 26 upgraded companies, 28 companies whose rating did not change and 3 downgraded companies. It is obvious that the number of upgrades dominates the number of downgrades. This stands in contrast to the results of BLUME et al. (1998) who found that, after controlling for key determinants of creditworthiness, the number of downgraded firms exceeds the number of upgrades. More recently, POSCH (2005) shows that the drift rate, defined as the number of upgrades minus the number of downgrades divided by the total rating changes, of ratings assigned by Moody's was on average -5.6% for the years 1980 to 2002.

[5] Through-the-cycle ratings disregard short-term fluctuations in default risk. By filtering out the temporary component of default risk, they measure only the permanent, long-term and structural component.
[6] Among others, BLUME et al. (1998) also use three-year averages.

Table 5: Overview of rating changes from unsolicited to solicited ratings

This table shows the rating changes for a sample of 57 firms, which were assigned a solicited rating from January 1996 to December 2005 after holding an unsolicited rating by S&P.

		Solicited rating														
		AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	Total
Initial, unsolicited rating	AAA	1														1
	AA+															0
	AA	3		1												4
	AA-				4											4
	A+															0
	A				1	2	3									6
	A-							1								1
	BBB+								6							6
	BBB				1		1	6	3	6	3					20
	BBB-										1					1
	BB+											2				2
	BB							1		3	1	2	1			8
	BB-												1	1		2
	B+													1	1	2
	Total	4	0	1	6	2	4	8	9	9	5	4	2	2	1	57

Furthermore, we find that mainly Japanese firms account for the downgrades and unchanged ratings. Two of three (66.77%) downgrades and 23 of 28 (82.14%) unchanged ratings stem from Japanese companies. Hence, only 8 out of 26 upgrades (30.77%) were found for Japanese firms. This adds to our findings from the previous section as well as to those of SHIN and MOORE (2003) and NICKELL et al. (2000) for a different assessment of Japanese companies. SHIN and MOORE (2003) found that ratings assigned by Moody's and S&P to Japanese firms are systematically lower than those assigned by the Japanese rating agencies R&I and JCR. In addition, NICKELL et al. (2000) observed that higher rated Japanese firms are more likely to be downgraded by credit rating agencies with headquarters in the US, and Japanese firms with low ratings are less likely than US firms to be upgraded by those agencies.[7] It is interesting to note that the three downgrades in the sample were downgrades from BBB to BBB-.

[7] However, AMMER and PACKER (2000) find no evidence for different default rates between US and foreign firms for the period 1983 to 1998 after controlling for time and rating effects.

3.2 Results of the event study

We apply the same event study methodology as before. Table 6 contains the distribution of the price reactions for the upgrades, the unchanged ratings and the matching sample.[8] Due to the small sample sizes (n < 30), we cannot use parametric test statistics assuming a normal distribution.

Table 6: Distribution of the price reaction

This table shows the distribution of the price reaction for a sample of 54 firms, which were assigned a solicited rating from January 1996 to December 2005 after holding an unsolicited rating by S&P. The sample is divided into 28 unchanged ratings and 26 upgrades. For the upgrades, the distribution of a matching sample is also given.

	(-15, -1)	(0, +15)	(+16, +30)	(-15, +30)
Panel I: Sample, unchanged				
Maximum	0.1157	0.0812	0.0740	0.0978
Median	0.0014	-0.0118	-0.0030	-0.0070
Minimum	-0.1287	-0.1658	-0.1101	-0.2066
Skewness	-0.1876	-0.7394	-0.3638	-0.7075
Kurtosis	3.4349	3.5957	2.7458	3.4612
Jarque-Bera p value	0.8249	0.2270	0.7071	0.2748

	(-15, -1)	(0, +15)	(+16, +30)	(-15, +30)
Panel II: Sample, upgrades				
Maximum	0.1471	0.1595	0.1247	0.2289
Median	0.0285	0.0180	-0.0140	0.0207
Minimum	-0.2833	-0.1672	-0.1222	-0.4865
Skewness	-1.7503	-0.4228	0.1823	-1.6680
Kurtosis	7.6633	3.5583	2.2504	7.5256
Jarque-Bera p value	0.0000	0.5734	0.6864	0.0000
Panel III: Matching sample, upgrades				
Maximum	0.1163	0.2081	0.1625	0.2206
Median	0.0083	0.0114	0.0045	0.0181
Minimum	-0.0860	-0.1359	-0.1157	-0.1335
Skewness	0.0975	0.4676	0.2366	0.3106
Kurtosis	3.1985	3.8400	2.6956	2.2019
Jarque-Bera p value	0.9589	0.4249	0.8424	0.5746

We calculate the median-CARs for our four sub-event windows by adding up daily abnormal stock returns over the respective event window for each company individually and calculating the median values for the three samples. To assess whether the abnormal returns in the event windows are significantly different from zero we test the hypothesis

[8] We did not calculate the price reactions for the downgraded firms due to their small number (n = 3).

that the median-CAR equals zero by applying the nonparametric Wilcoxon signed ranks test which is well-suited for small sample sizes. The results are summarized in Table 7.

Table 7: Price reactions to rating changes from unsolicited to solicited ratings

This table shows price reactions for the unchanged and upgraded firms, which were assigned a solicited rating from January 1996 to December 2005 after holding an unsolicited rating by S&P, and the price reactions of the matching sample. Two-sided significance levels for the Wilcoxon signed ranks test are given as ***, **, and * representing 1%, 5%, and 10% significance respectively.

	Unchanged (n = 28)		**Upgrades (n = 26)**		**Matching Sample (n = 26)**	
Event window	Median(CAR)	Wilcoxon p-value	Median(CAR)	Wilcoxon p-value	Median(CAR)	Wilcoxon p-value
(-15, -1)	0.14%	0.7562	2.85%**	0.0332	0.83%	0.5778
(0, +15)	-1.18%	0.1234	1.80%	0.1266	1.14%	0.4494
(+16, +30)	-0.30%	0.7902	-1.40%	0.4198	0.45%	0.6655
(-15, +30)	-0.70%	0.1838	2.07%*	0.0864	1.81%	0.2348

In the sample of firms whose rating did not change at the transition from unsolicited to solicited we find positive abnormal returns before and negative abnormal returns after the event. However, none of the abnormal returns are significantly different from zero. In the sample of upgrades we find significantly positive abnormal returns on the 5%-level in the sub-event window before the rating announcement (-15,-1), and positive as well as negative abnormal returns in the two event windows after the rating announcement. Both median-CARs are not significantly different from zero. However, over the whole event period from day -15 until +30, we find significant positive price reactions. In the matching sample we find only positive abnormal returns. None of the returns is significantly different from zero.

We next analyze whether there are differences in the stock market reactions between the upgrades and the unchanged ratings in the sample as well as between the upgrades in the sample and the matching sample. We use the Wilcoxon signed ranks test for two samples to assess the statistical significance of these differences. Table 8 summarizes the results.

Table 8: Comparison of price reactions

In the second and third columns, this table shows results of a comparison of price reactions of 26 upgrades with 28 unchanged ratings of these issuers, which were assigned a solicited rating from January 1996 to December 2005 after holding an unsolicited rating by S&P. In column four and five, these 26 upgrades are compared with a matching sample (n = 26) with solicited rating changes only. Two-sided significance levels for the Wilcoxon signed ranks test are given as ***, **, and * representing 1%, 5%, and 10% significance respectively.

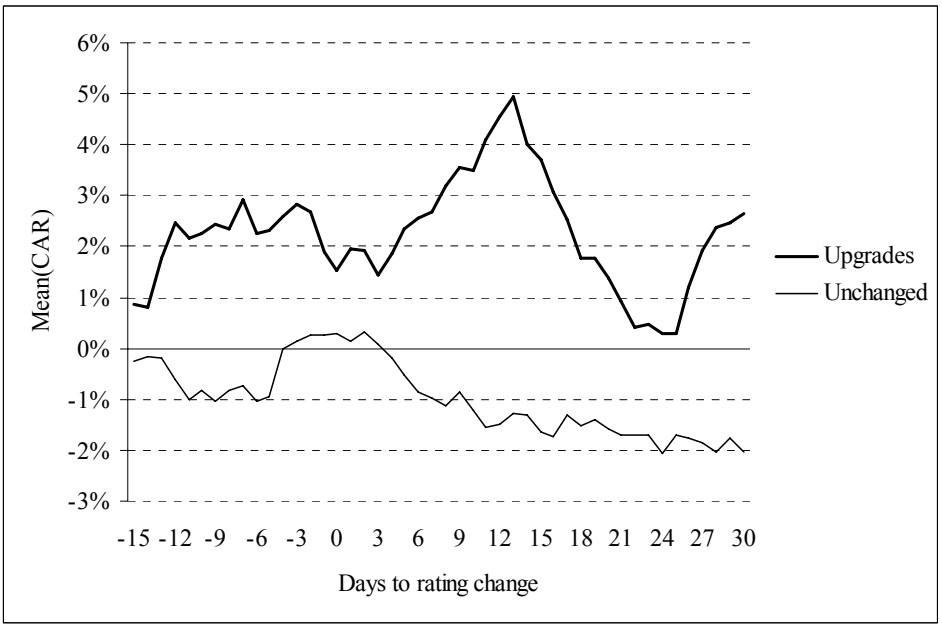
	Δ (Median($CAR_{Upgrades}$) – Median($CAR_{Unchanged}$))		**Δ (Median($CAR_{Matching\ sample}$) – Median(CAR_{Sample}))**	
Event window	Δ(Median(CAR))	Wilcoxon p-value	Δ(Median(CAR))	Wilcoxon p-value
(-15, -1)	2.71%	0.1152	-2.01%	0.1569
(0, +15)	2.97%**	0.0292	-0.66%	0.6042
(+16, +30)	-1.10%	0.5529	1.85%	0.3412
(-15, +30)	2.77%**	0.0371	-0.27%	0.6956

We find significantly different stock market reactions on the 5%-level between the upgrades and the unchanged ratings in the sample for two event windows. In the first sub-event window after the rating announcement we find that the abnormal returns for the upgrades are 2.97% higher and statistically significant. Over the whole event window, the abnormal returns for the upgrades are 2.77% higher. Particularly the significant difference in the event window immediately after the rating announcement is interesting as it indicates that companies with an upgrade are rewarded by the stock market relative to the companies whose rating did not change.

Figure 1 plots the different courses of the CAR for the upgrades and the unchanged ratings. The difference of the CAR between both samples is with nearly 5% at its most remarkable around day 12 after the rating event.

Figure 3: Comparison of price reactions

The figure shows mean cumulative abnormal returns (CAR) for 26 upgrades and 28 unchanged ratings of the sample with rating changes from unsolicited to solicited ratings.



These results are even more notable when comparing the upgrades in the sample with the matching sample. This comparison does not reveal significant differences in the price reactions in any of the event-windows. We ran several OLS-regressions to test the robustness of this result. In these OLS-regressions the dependent variables were the abnormal returns in the sub-event windows, the explanatory variables were the rating

changes, a dummy for pi versus non-pi plus some additional control variables for company size, region, year of the rating change as well as a dummy for rating changes from investment grade to non-investment grade and vice versa. The pi-dummy was not significant in any of the regressions. This underlines our result from the event study, namely that the stock market does not react to upgrades from unsolicited to solicited ratings. Hence, it seems that the stock market treats upgraded companies the same way – no matter whether the companies had an unsolicited or a solicited rating before. Assuming that a rating upgrade is good news for the stock market, investors obviously anticipate a rating upgrade and the good news is already reflected in share prices. The fact that the stock market does not react to rating upgrades is well-documented in the empirical literature about solicited ratings. However, so far there were no results evident on the stock market reaction to the rating solicitation. Our result at least challenges the widespread opinion, which is often communicated by the agencies themselves, that solicited ratings convey new information to the market. One might interpret this result rather as an enforcing argument for the downward bias theory. Since stock market investors are rational they know of the downward bias and therefore do not reward the companies with a higher valuation for the publication of an upgraded solicited rating. On the flip side, this would imply that companies who received a solicited rating that did not differ from the unsolicited one would be punished by the capital market in the form of significant negative abnormal returns. Table 7 does in fact show negative abnormal returns for those companies in both sub-event windows after the rating announcement and for the entire event period. However, none of these returns are significantly different from zero. Nonetheless, the comparison with the upgrades in the sample revealed that the stock market reaction is significantly worse for the unchanged ratings. This at least indicates that the stock market punishes the companies with an unchanged rating relative to the upgraded ones. Again, we might raise the question as to why the unchanged companies would order a solicited rating if they are not to be rewarded by the stock market? BANNIER and TYRELL (2005) argue that only those firms will request a solicited rating who think they are able to disclose more optimistic information about their quality than what the market expected. Our findings do not support this argument. First, the upgraded companies are not rewarded by the stock market in terms of positive abnormal returns. Second, there are also companies with unchanged ratings that requested a solicited rating. Third, and probably most extraordinarily, some of the

companies requested a solicited rating and were subsequently downgraded. This is a puzzling result which requires further investigation.

3.3 Determinants of changes to a solicited rating

Given these results, we now try to discriminate between issuers who got an unchanged or even downgraded rating and those who received a rating upgrade. To fit the qualitative nature of credit ratings, we employ a binary probit model which is generally formulated as follows:

$$\Delta R_i = \alpha + \sum_{k=1}^{K} \lambda_k X_{k,i} + \varepsilon_i \tag{1}$$

ΔR_i denotes the change from an unsolicited to a solicited rating of issuer *i*. We lump the three downgrades and the 28 unchanged ratings in one class of rating change ($\Delta R_i = 0$), and all upgrades in a second class of rating changes ($\Delta R_i = 1$). We split our regression analysis in two different models, with K = 4 for the first and K = 9 for the second model. The difference between both models is that the second model includes additional control variables. X_1 equals 1 if the company *i* has its headquarter in Japan, and zero if not; X_2 equals 1 if *i* is a financial institution, and zero if not; X_3 equals the natural log of the market value in million USD at the time of the rating change; X_4 equals the initial rating of *i*; X_5 equals 1 if the company had a long-term rating by Moody's at the time of the rating change; X_6 equals the average change in the ROE over the last three years before the rating change; X_7 equals the average change in total sales over the last three years before the rating change; X_8 equals the average change in the dividend yield over the last three years before the rating change; X_9 equals the average change in the market value over the last three years before the rating change (see Section 3.1 for a description of the four additional control variables).

Table 9: Regression results of determinants of changes to a solicited rating

This table shows results of binary probit models with the change from an unsolicited to a solicited rating as dependent variable. We apply robust quasi-maximum likelihood standard errors. Two-sided significance levels are given as ***, **, and * representing 1%, 5%, and 10% respectively.

	Model I			Model II		
	Coefficient	Std. Error	Marg. effect	Coefficient	Std. Error	Marg. effect
Intercept	2.2017	2.2703		2.2019	2.3257	
Japan	-1.8676***	0.4845	-0.3701	-1.8802***	0.5685	-0.3498
Financial institution	-0.7294	0.5864	-0.1818	-0.6867	0.5784	-0.1625
In(Market value$_t$)	-0.1991	0.2070	-0.0543	-0.2336	0.2310	-0.0741
Initial rating	0.1005	0.0842	0.0274	0.1151	0.0869	0.0260
Rating by Moody's	0.0382	0.5604	0.0105	-0.0929	0.5603	-0.0231
Average Δ in ROE $_{t,t-3}$				1.2508**	0.5188	0.3236
Average Δ in sales $_{t,t-3}$				1.0285	2.1160	0.3733
Average Δ in dividend yield $_{t,t-3}$				-0.2422	1.1471	-0.1528
Average Δ in market value $_{t,t-3}$				0.0734	0.1720	0.0127
Observations			57			57
McFadden R^2			0.2931			0.3530

We find that the coefficient for Japan as the region of a company's headquarter is negative and highly significant in both models. This means that Japanese companies are more likely to receive a downgrade or an unchanged rating only when they order a paid rating. As the absolute height of the coefficients is not interpretable in probit models, we calculated the marginal effects.[1] The marginal effect of the coefficient for Japan is -0.3701 (-0.3498 for the second regression model). This expresses that an upgrade at the transition from unsolicited to solicited is 37.22% (34.98%) less likely for companies from Japan compared to companies from other countries. Thus, the tendency of the descriptive analysis seems to be robust in the multivariate analysis, after controlling for changes in operative performance, market valuation, size, and business sector. For the control variables, we only get significant results for the change in ROE. Firms with increasing ROE are more likely to receive a rating upgrade. This seems to be intuitive because profitability is an important determinant of credit ratings.

A striking finding here is that there are also firms who order a paid rating but receive an outcome which is no more positive, and in some cases even worse Thus, it hardly seems justifiable why firms pay for a downgrade or unchanged rating if they already have received that for free in the form of an unsolicited rating. The regression analysis has shown that mainly Japanese firms account for this sort of odd rating request. This finding might add to the accusations of the JCIF (1999) that US rating agencies damage the

international standing of Japanese firms by issuing ratings which are generally lower than the (solicited) ones of Japanese rating agencies. Furthermore, it strengthens to some extent our findings from the previous section. After all, Japanese companies seem to be treated differently from other companies by S&P. However, again we cannot answer whether this is done intentionally or due to other reasons.

4 Conclusions

This study analyzes the stock market reaction to the announcement of an initial unsolicited rating and to the change from the former unsolicited to a solicited rating. We identify a sample of 231 firms which were assigned an initial unsolicited rating by S&P in the period January 1996 to December 2005. Using event study methodology we asses the stock market reactions to these rating announcements. We find a significant stock market reaction of -1.35% in the event window (0, +15). This is puzzling, as one should not expect any stock market reaction to an unsolicited rating given the nature of unsolicited ratings. Unsolicited ratings are based on publicly available information only. Therefore, rational investors should correctly anticipate the quality of the rating. We then subdivide the sample in firms headquartered in Japan and firms from other countries. We find a significant abnormal return for Japanese companies of -2.07% for the first 15 days after the rating announcement. At first sight, it seems that Japanese firms are treated particularly differently by S&P as opposed to stock market expectations. However, the effect vanishes in a multivariate context. For firms from other countries we do not find any significant stock market reaction. Furthermore, a comparison between S&P's initial unsolicited ratings with already published ratings of two Japanese rating agencies for a Japanese sub-sample reveals that ratings assigned by S&P are systematically worse.

We then analyze a sample of 57 firms who received a solicited rating after formerly having been unsolicitedly rated by S&P in the sample period. We again asses the stock market reactions to these rating changes for a sub-sample of upgraded firms and a sub-sample of firms whose rating did not change. We only find significantly positive abnormal returns for the upgraded firms in a 15 day event window before the rating announcement and for the whole event period (-15, +30). For the unchanged firms we do not find any significant stock market reaction. A comparison between both samples revealed, however, that the stock market reaction to the upgraded firms is significantly

[1] The marginal effect shown here is the mean over the marginal effects for all 57 companies in the sample.

better than to the unchanged firms over the whole event period and in the event window encompassing 15 days after the event took place. Thus, it seems that the stock market views the announcement of an unchanged rating as bad news. One explanation why firms order a solicited rating after previously having had an unsolicited rating could be that the firms use the solicitation of their rating as a signaling device. Following this line of argumentation, upgraded firms would order a solicited rating to signal their better creditworthiness to the stock market. However, why firms with unchanged ratings and, even more obscurely, downgraded companies would pay the rating agency to obtain a solicited rating is hardly explainable. Furthermore, we find that this odd sort of rating request is more likely for Japanese companies. Given our results, it would not seem beneficial from a shareholder point of view for the company management to initiate a solicited rating, especially if one takes into account the high direct and indirect costs associated with the rating process.

All in all, the results of our analyses raise doubts regarding the assertion that solicited ratings convey more information to the market than unsolicited ones. It rather seems that the stock market already incorporates this information and, thus, does not react to a change from an unsolicited to a solicited rating. The comparison of the upgrades in the sample with the matching sample emphasizes this argument. We did not find any significantly different stock market reaction for both samples.

In addition, one could interpret these results in a different direction. The fact that the stock market does not react to the upgrades in the sample could be seen as a hint for the existence of a downward bias, which would be in line with recent empirical and theoretical work. Assuming that unsolicited ratings tend to be lower on average, the stock market expects these firms to feature a higher creditworthiness than reflected in the unsolicited rating. Once the rating becomes solicited, the downward bias disappears (at least for the upgraded firms) but the stock market does not react to the rating change because it is already incorporated in the share price. This argument would be in line with our findings from Section 2 where we detected a negative stock market reaction to the assignment of the initial unsolicited rating.

A few words of caution are, however, warranted with regard to the analysis of the rating solicitation. Even though we captured the entire publicly accessible S&P-universe of companies with unsolicited ratings, the samples are fairly small in size. With such small samples it is generally difficult to conduct robust statistical tests. Furthermore, the nature

of the results we obtained with our study is not entirely clear, thus, some crucial issues discussed in this paper were not clearly answered. Is it really justified that firms condemn being unsolicitedly rated? As the stock market reacts negatively to the initial unsolicited rating, the most likely answer to this question is yes. Is this effect more pronounced for Japanese companies? At first sight, this seems so. However, deeper analysis raised doubts about this. Are unsolicited ratings really downward biased? As the capital market reacts negatively to the announcement of the initial unsolicited rating, this would seem to be the case. Do solicited ratings really convey more information than unsolicited ones, however? As the stock market does not show any significant reaction to the transition, there remains uncertainty as to whether they really do.

Even though this study is a first step in obtaining more insight into the rating agencies' practice of rating companies on an unsolicited basis, it raises a number of new questions. Further research in this area is necessary to broaden our understanding of the activities that rating agencies unfold.

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